

Docket No.: P-0613

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

**EXPEDITED PROCEDURE
UNDER 37 C.F.R. §1.116**

Joon-Kui AHN et al.

Confirmation No.: 3151

Serial No.: 10/700,041

Group Art Unit: 2618

Filed: 11/4/2003

Examiner: Raymond S. Dean

Customer No.: 34610

For: UPLINK DPCCH TRANSMISSION POWER CONTROL FOR TERMINAL IN SOFT
HANDOVER

REQUEST FOR RECONSIDERATION

U.S. Patent and Trademark Office
Customer Service Window, **Mail Stop AF**
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

Applicants respectfully request reconsideration of the rejections set forth in the Office Action dated October 31, 2007. Claims 1-24 and 27-31 are pending in the application.

Applicants gratefully acknowledge the Office Action's indication that claims 3-5, 9-10 and 15 contain allowable subject matter. However, as will be discussed below, all claims are believed to be allowed/allowable. Applicants also maintain all previous arguments.

The Office Action rejects claims 1-2, 11-14, 16-22, 24 and 28-31 under 35 U.S.C. §102(e) by U.S. Patent 6,850,771 to Malladi et al. (hereafter Malladi). The Office Action

also rejects claims 6-8 and 23 under 35 U.S.C. §103(a) over Malladi in view of U.S. Patent 6,603,980 to Kitagawa et al.

The present specification describes drawbacks of related art such as power of a general control channel being unnecessarily maintained high, a DPCCH signal being transmitted with unnecessarily high power for certain slot sections, causing interference intensity in the overall mobile communication system to undesirably increase, and waiting for a DPCCH transmit power to return to its normal level being undesirably long. See page 11, line 18-page 13, line 3 of the present specification. In order to overcome these drawbacks, the present specification describes a method of temporarily increasing a power level of a control channel when HS-DPCCH transmission begins, and then immediately reducing such increased power level when HS-DPCCH transmission is completed.

Independent claim 1 recites temporarily increasing a power of a general control channel to a power level requested to demodulate a specific control channel if transmission of the specific control channel signal is executed, and decreasing the increased power to meet a power level requested by a current general control channel transmission if the specific control channel transmission is completed.

The applied references do not teach or suggest at least these features of independent claim 1. Malladi relates to an uplink power control to maintain integrity of an uplink HS-DPPCH when an UE goes into a soft handoff (SHO). However, Malladi does not teach to temporarily increase a power level of a control channel when HS-DPCCH transmission begins, and then immediately reducing such increased power level when HS-

DPCCH transmission is completed. The cited sections of Malladi merely relate to general/conventional power control concepts that require a Node B to monitor a pilot signal strength in order to determine whether to send a transmit power level increase or decrease command to UE. See Malladi's col. 2, lines 14-26. However, the general power control scheme of Malladi does not teach or suggest temporarily increasing the power level of the control channel when HS-DPCCH transmission begins, and then decreasing the increased power level when HS-DPCCH transmission is completed. The power control method described in the present specification depends upon a start and completion of the desired high-speed control channel transmission. Malladi does not specifically disclose these features. Accordingly, Malladi does not teach or suggest temporarily increasing a power of a general control channel to a power level requested to demodulate a specific control channel if transmission of the specific control channel signal is executed, and decreasing the increased power to meet a power level requested by a current general control channel transmission if the specific control channel transmission is completed, as recited in independent claim 1.

Malladi recognizes that the reduction of pilot signal transmit power by UE can affect the uplink high speed communications between the UE and the Node-B because the signal strength of HS-DPCCH will be reduced in proportion to the reduction of the pilot signal strength in accordance with the traffic-to-pilot ratio stored in the UE. See Malladi's col. 2, lines 40-45. This leads to a "link imbalance" condition, which Malladi resolves by having a RNC monitor the pilot signal strength (in terms of certain parameters), and these

parameters are used in determining whether to increase or decrease the target pilot SNR threshold T. See Malladi's col. 3, lines 12-17. Accordingly, Malladi results in a general uplink power control method (different from applicants') that is performed "indirectly" requiring an undesirably long time to perform and complete. Additionally, Malladi's power control may resolve a link imbalance condition "during" HS-DPCCH transmission. Malladi does not teach or suggest a particular duration of performing such uplink power control. For at least the reasons set forth above, Malladi does not teach or suggest all the features of independent claim 1.

Kitagawa relates to a transmission/reception power control method of a mobile communication using a CDMA system. However, similar to Malladi, Kitagawa does not teach or suggest temporarily increasing the power level of the control channel when HS-DPCCH transmission begins, and then immediately reducing such increased power level when HS-DPCCH transmission is completed. Kitagawa therefore does not teach or suggest the missing features.

In summary, Malladi and Kitagawa are merely concerned with a conventional transmission power control scheme that does not contain temporarily increase the power level of the control channel when HS-DPCCH transmission begins and reduce increased power level when HS-DPCCH transmission is completed.

Malladi and Kitagawa do not teach or suggest temporarily increasing a power of a general control channel, as recited in independent claim 1. Malladi and Kitagawa do not teach or suggest applying a second power control method to the DPCCH transmission for

at least a K_algo1 number of slots upon completion of high speed dedicated physical control channel (HS-DPCCH) transmission, as recited in independent claim 16. Malladi and Kitagawa also do not teach or suggest forcibly decreasing the second uplink transmission power back to the first uplink transmission power after transmission of the high speed control channel is completed, as recited in independent claim 20. Still further, Malladi and Kitagawa do not teach or suggest re-adjusting the uplink transmission power from the second power level to the first power level after completing transmission on the high-speed control channel, as recited in independent claim 28.

For at least the reasons set forth above, each of independent claims 1, 16, 20 and 28 defines patentable subject matter. Each of the dependent claims depends from one of the independent claims and therefore defines patentable subject matter at least for this reason. In addition, the dependent claims recite features that further and independently distinguish over the applied references.

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-24 and 27-31 are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this,

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concurrent and future replies, including extension of time fees, to Deposit Account 16-0607
and please credit any excess fees to such deposit account.

Respectfully submitted,
KED & ASSOCIATES, LLP



David C. Oren
Registration No. 38,694

P.O. Box 221200
Chantilly, Virginia 20153-1200
(703) 766-3777 DCO/kah

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Please direct all correspondence to Customer Number 34610